

## TRANSFORMING TEACHER'S PRACTICES THROUGH LESSON STUDY

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### ABSTRACT

#### Background

*Based on widely-held belief and perception that improving teachers will then improve teaching practices, professional development has become one of the main agendas in educational reforms. Consequently, one of the major issues addressed in educational reforms is the teachers' quality and this is close related to teacher professional development. To overcome the deficiencies and weaknesses of teachers' teaching, the Ministry of Education (MoE) has been conducting various in-service programmes and courses with the aim to transform and improve teachers' teaching knowledge, skills and competency. It is a widely-held perception and belief that this would impact on teachers, and in turn change and enhance their teaching practices.*

#### Methods

*The primary purpose of this study was to investigate the influence of lesson study on teachers' pedagogical content knowledge. It also planned to explore the feasibility of lesson study for teacher professional development in the Malaysian education context. This qualitative study explored the implementation of Lesson Study, a kind of teacher-directed approach of Japanese model for transforming teachers' practice in the Malaysian education context. Transforming teacher's practice is vital and imperative to enhance teachers' knowledge in the context of teachers' learning. The enhancement of teachers' practice would certainly improve their teaching practices in the classroom. Case study design was chosen for this study, however, due to the constraints in time and resources, this study focused only two cases. This was also to allow the researcher to investigate each case deeply. The two cases comprised of 17 teachers serving in two secondary schools and they were nominated by their respective school administrators who gave the consent for the research to be conducted. To gauge the participants' responses towards the lesson study, they were engaged in authentic lesson study process at their respective schools. Their reflections and change of perceptions were sought through individual interviews and journal writing. The researcher was also involved as participant observer to conceptualise the experiences and perceptions as constructed by the participants in the research context. Using this design, the research questions were answered through in-depth enquiries. This study also employed multiple techniques of data collection: interviews, observations (researcher's field notes), journal writing (participants' reflection) and transcripts of the lesson study discussions and teachings. Since the situations and events of the context were critical important in case study research, the researcher maintained field notes to narrate his observations and reflections. There were two stages of data analysis in this study: data analysis during fieldwork and post fieldwork data analysis.*

#### Results

*The findings of this study propose that lesson study could be an innovative model of professional development that is effective to enhance teachers' pedagogical content knowledge through peer collaboration. Prior to the introduction of lesson study, the participating teachers were working in isolation as there were no structural activities of professional development in school which they could collaborate and work together with one another. Through the data analysis, emerging themes were identified and these include: (a) enhance teachers' content knowledge, (b) influence on*

*teachers' pedagogical content knowledge, (c) change teachers' pedagogical knowledge, (d) promote teachers' reflective practice, (e) develop teachers' collegial relationship, (f) emphasise active student participation in teaching, (g) encourage the practice of lesson planning, and (h) develop motivation for self-development. To conclude, the lesson study process seems able to motivate teachers to seek self-improvement as it actually creates an opportunity and rooms within the school context to support teachers' learning. Hence, strong desire and the willingness of the teachers to seek professional development would be a prerequisite because the lesson study is merely providing the opportunity and venue for the teachers which in fact, severely lacking in the Malaysian school context. Lesson study is self-directed and therefore, it would depend much on the teachers' initiatives to seek changes in their teaching.*

**KEYWORDS:** Lesson Studies, Professional Development, Reflective Practice & Innovative Model

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## INTRODUCTION

### Background/ Objectives and Goals

Reforms in curriculum and educational policies are aimed to overcome deficiencies and weaknesses as well as preparing the nation to face global challenges in the future. Malaysia, a developing nation has been revamping and reviewing educational policies to strive a higher level of educational standard. This is in tune with the research evidences and recommendations on effective teaching and learning strategies. More importantly, high quality forms of teacher professional development are linked to improve students' achievement (Garet, Porter, Desimore, Birman, & Yoon, 2001). Although professional development encompasses a wide ranging domain, review of the literatures stressed great importance to improve teachers' pedagogical content knowledge and reflective practice. According to Shulman (1986), pedagogical content knowledge is "*the ways of representing and formulating the subject that make it comprehensible to others*" (p. 9) while reflective practice is vital and imperative to enhance teachers' knowledge in the context of teachers' learning (Ball, 1996). The enhancement of teachers' pedagogical content knowledge and reflective practice would certainly improve their teaching practices in the classroom.

Consequently, one of the major issues addressed in educational reforms is the teachers' quality and this is close related to teacher professional development. To overcome the deficiencies and weaknesses of teachers' teaching, the MOE has been conducting various in-service programmes and courses with the aim to improve teachers' teaching knowledge, skills and competency. It is a widely-held perception and belief that this would impact on teachers, and in turn change and enhance their teaching practices. Hence, making change to teachers' teaching seemed to face a strong challenge. However, this trend or phenomenon was not confined to Malaysia as other countries were also experiencing similar outcome. It would be a real challenge to change teachers' teaching as other factors such as teachers' beliefs and their teaching conceptions are also needed to be tuned towards the visions and goals of the curriculum reforms.

## METHOD

The primary purpose of this study was to investigate the influence of lesson study on teachers' pedagogical content knowledge and reflective practice. It also planned to explore the feasibility of lesson study for teacher professional development in the Malaysian education context. As this study was exploratory in nature, the choice of qualitative case study as the research design is explained and justified. Patton (1990) proposed that, "*Purpose is the controlling force in research. Decisions about design, measurement, analysis and reporting, all flow from purpose*" (p. 150). Qualitative

research is known to be able to provide rich and deep understanding of social phenomena compared to quantitative research (Silverman, 2005).

Case study design was chosen for this study as it was defined by Creswell (2008) that case study is “*an exploration of a bounded system or a case (or multiple cases) over time through detailed, in-depth data collection involving multiple sources of information rich in context*” (p. 61). To gauge the participants’ responses towards the lesson study, they were engaged in authentic lesson study process at their respective schools. Their reflections and change of perceptions were sought through individual interviews and journal writing. The researcher was also involved as participant observer to conceptualise the experiences and perceptions as constructed by the participants in the research context. Using this design, the research questions were answered through in-depth enquiries. Besides, the emerging themes that evolved from this study will also be appropriately investigated using the case study method (Creswell, 2008).

To evaluate teacher professional development, Guskey (2000) proposed five yardsticks: (i) participants’ reaction, (ii) participants’ learning, (iii) organization support and change, (iv) participants’ use of new knowledge and skills, and (v) student learning outcomes. Consequently, to evaluate the influence of lesson study, all these yardsticks are deemed suitable and relevant.

The more important consideration in selecting both the schools was the school principals’ consent and permission to carry out the research. This aspect was deemed vital to carry out any research study in Malaysia. No specific criteria were imposed by the researcher in selecting the schools as the initial and real concern was getting the consent from the school principals as “*gate-keeper*.”

This study employed multiple techniques of data collection: interviews, observations (researcher’s field notes), journal writing (participants’ reflection) and transcripts of the lesson study discussions and teachings. Since the situations and events of the context were critical important in case study research, the researcher maintained field notes to narrate his observations and reflections.

## RESULTS

### Teachers’ Pedagogical Content Knowledge

The overall analysis of the data showed that lesson study has influenced on the participants’ pedagogical content knowledge. This finding concurred with other related lesson study researches (such as Perry, Lewis, & Akiba, 2002; Stepanek, 2003; Murata, Lewis, & Perry, 2004; Rock & Wilson, 2005; Fernandez, 2005; Cerbin & Kopp, 2006) that revealed the positive impact of lesson study on teachers’ pedagogical content knowledge. However, different participating teachers attained different degrees of influence primarily due to their personal attitude and commitment. Teachers who have positive attitude towards the profession and committed were found to be more willing to participate in lesson study and to improve themselves in a professional manner. Thus, they gained far more significant effect as compared to those who have participated apathetically. As Maria explained at the end of this study:

*For me, the way [lesson study] was conducted, sometimes lesson study is meaningless, . . . for certain teachers. But for those who want to change, this way may help. It can change the teaching which before this is weak. The teaching might be better for those who want to change.*

As Ball and Cohen (1999) contended that the nature of lesson study provides teachers the time and opportunity to share and discuss their teaching ideas. Prior to the lesson study, it was rare and unusual for the teachers to work

collaboratively and to observe one another. However, in the lesson study process, the teachers discuss and plan a lesson collaboratively, and observe each other teaching as well as reflecting on each others' teaching. When scaffold and given support by their peers, they were engaged to think in-depth and this influenced and changed their teaching knowledge. As reflected by Ziti that the *common factor* strategy in factorisation was unknown to her prior to lesson study, she said, *"Sometimes, we are not comfortable with our content knowledge because there are many things that we do not know"*. In short, lesson study is able to influence teachers' pedagogical content knowledge, given the learning opportunity and environment for teachers in school (Ball & Cohen, 1999; Welch, 1998).

### Teachers' Reflective Practice

Data from the study showed that lesson study has influenced on teachers' reflective practice to some extent. Again, the degree of influence varies across different individual participating teachers. Teachers who were active and committed such as Jayanthi and Hafizah declared that they have reflected much more about teaching now as compared prior to joining the lesson study group. As Jayanthi mentioned in the interview:

*Yes, a lot. After you observe them [students], then you think . . . but even before I used to think . . . but maybe now, we think differently. Maybe we see something in the lesson . . . then we think in our lesson . . . how does it go on things like that . . . maybe in certain aspects.*

As expressed by Ball and Cohen (1999) in the earlier discussion, the nature of lesson study which provides opportunity for teachers to gather and discuss matters pertaining to their teaching might have contributed to this effect. Through the lesson study discussions, the participating teachers became more aware of their own weaknesses through self-reflection. Through observing their peers' teaching, they become more aware of the students' mistakes and misconceptions. As Jayanthi reflected that, *"It changes me a lot because when I see and observe, I can see the perspectives of the students. What the students think . . . then, I know . . ."*. Later, the teachers were also encouraged to reflect further when scaffold by the researcher and the moral support from their peers. Such process of the lesson study naturally promotes the teachers to reflect upon their teaching knowledge and practices and consequently, it is deduced that lesson study is able to influence teachers' reflective practice.

The findings of this study propose that lesson study could be an innovative model of professional development that is effective to enhance teachers' pedagogical content knowledge through peer collaboration. As stated by Garet et al., (2001) that teachers who gained content knowledge and teaching skills from teacher professional development programme are more likely to change their teaching practices in the classroom. Murata, Lewis and Perry (2004) explained that the increased knowledge base of teachers through lesson study is only the intermediate outcomes that would in due course be translated to improved classroom teaching as the long-term outcomes. On a similar analogy, Lewis (2005) identified seven *key pathways* that connect lesson study to improved classroom instruction and two of the *key pathways* are increased knowledge of subject matter and increased knowledge of instruction.

The significance of content and pedagogical content knowledge as knowledge base for teaching has been widely recognised by educators (such as Shulman, 1986; Ball, 2000) and Ball (2000) contended that acquiring such knowledge evolved naturally through one's interaction and experience. Prior to the introduction of lesson study, the participating teachers were working in isolation as there were no structural activities of professional development in school which they could collaborate and work together with one another. Lesson study provides the context and venue for the teachers to

enhance their pedagogical content knowledge as they engaged in active discussion and self-reflection. In fact, the nature of the lesson study process provides an opportunity for teachers to reflect and this influenced their reflective skills. This was evidenced in Zaiton's statement when she related her personal experience as, *"During lesson study, we are exchanging various opinions and ideas. Then we suddenly think . . . Oh! like that . . . and we just get the idea"*

According to Lewis (2002), the lesson study outcomes are able to enhance and sustain teachers' motivation and attitude for their professional development that eventually, change their teaching practices. Jayanthi and Hafizah, for instance were among the participants who had actively engaged in the lesson study process. They espoused that the lesson study conducted had benefited them to enhance their teaching practices and this motivated them to seek for more lesson study participation. Intrinsic motivation such as desire and self-motivation to improve teaching seemed to be the *push factor* besides the outcomes of the lesson study.

This study has showed that teachers working collaboratively with one another are able to promote their learning. As reflected by Jayanthi:

*I learn a lot . . . because there are a lot of things which I don't think . . . but the other teachers . . . they have thought about it. So, when we share them, then we find that we are getting new ideas. OK, just for the lesson plan about the integers, I have never heard about the chips at all and I have never even thought about it.*

Besides peers' support, the researcher who acted as lesson study facilitator also scaffolded the participating teachers to greater height as propagated by Vygotsky (1978). The lesson study cycles have influenced the participants' pedagogical content as they share and discuss among themselves which also promote them to be more reflective. Such environment and circumstances are critical important for teachers' learning (Ball, 2001).

Findings of this study imply that lesson study could provide an alternative and innovative model of teacher professional development in Malaysia. Lesson study has been proclaimed as an effective model of professional development in the literatures (such as Stigler & Hiebert, 1999; Lewis, 2002; Fernandez & Yoshida, 2004) and therefore, it has the potential to influence teachers' teaching as reflected from the findings and results of this study.

However, lesson study is teacher-directed and resembles a bottom-up approach of professional development (Lewis, 2002) that demands much time and commitment from the teachers such as positive attitude towards the teaching profession. As evidenced from the findings of this study, the implementation of lesson study at School S and School K was constrained by several factors, namely time constraint, teachers' workload and the exam-oriented culture which are inter-related to one another. The interplay of these factors has restricted the smooth accomplishment of the lesson study process. Indirectly, these restricting factors reflected two major implications: (i) there is a lack of teachers' awareness towards professional development, and (ii) a strong emphasis of exam-oriented culture in the Malaysian education context.

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## CONCLUSIONS

To conclude, it is a worthy agenda to promote lesson study as an innovative school-based teacher professional development in long term. The school administrators have a prominent role to support and motivate the teachers to strive for their professional development. The teacher educators or master teachers could extend their teaching expertise as knowledgeable others by working and collaborating with the practising teachers in schools. This builds a network of teacher collaboration and cooperation that is highly recommended in the context of teacher learning. For this reason, the lesson study model may serve as a promising and innovative approach to improve teaching as elaborated by Cerbin and Kopp (2006). The lesson study, if implemented in the Malaysian education context would mark a major paradigm shift for teacher professional development.

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